

WHAT IS CLAIMED IS:

1. A wireless network system capable of tracking a location of a mobile station
2 comprising:

3 a visitor location register in which location information relating to a wireless network
4 location of a mobile station is stored; and

5 a base station controller storing location information relating to a wireless network location
6 of a mobile station in said visitor location register when the mobile station registers its location
7 with said wireless network, and confirming a location of the mobile station by dummy paging and
8 updating the location information stored in said visitor location register when the mobile station
9 keeps up an idle state during a certain period.

1. 2. A private wireless network system capable of tracking a location of a mobile station
2 comprising:

3 at least one repeater dispersedly installed in sector zones of a private base transceiver
4 station;

5 a visitor location register in which location information relating to a private wireless
6 network location of a mobile station is stored, the location information including at least one of
7 a private base transceiver station number, a sector number and a repeater number; and

8 a private base station controller storing location information relating to a private wireless
9 network location of a mobile station in said visitor location register when the mobile station
10 registers its location with said private wireless network, and confirming a location of the mobile

11 station by dummy paging and updating the location information stored in said visitor location
12 register when the mobile station keeps up an idle state during a certain period.

1 3. A private wireless network system capable of tracking a location of a mobile station
2 comprising:

3 at least one repeater dispersedly installed in sector zones of a private base transceiver
4 station;

5 a visitor location register in which location information relating to a private wireless
6 network location of a mobile station is stored, the location information including at least one of
7 a private base transceiver station number, a sector number and a repeater number;

8 a private base station controller storing location information relating to a private wireless
9 network location of a mobile station in said visitor location register when the mobile station
10 registers its location with said private wireless network, and confirming a location of the mobile
11 station by dummy paging and updating the location information stored in said visitor location
12 register when the mobile station keeps up an idle state during a certain period; and

13 a server inquiring about the location information of the mobile station stored in said visitor
14 location register.

1 4. A method for tracking a location of a mobile station in a wireless network comprising:
2 storing location information relating to a wireless network location of a mobile station in
3 a visitor location register when the mobile station registers its location with said wireless network;

4 confirming a location of the mobile station by dummy paging when the mobile station
5 keeps up an idle state during a certain period; and
6 updating the location information stored in said visitor location register using the
7 confirmed location information of the mobile station.

1 5. The method according to claim 4, the location information includes at least one of a
2 base transceiver station number, a sector number and a repeater number.

1 6. In a private wireless network including a visitor location register in which location
2 information of a mobile station is stored, a method for tracking a location of a mobile station
3 comprising:

4 storing, by a private base station controller of said private wireless network, location
5 information relating to a private wireless network location of a mobile station in said visitor
6 location register when the mobile station registers its location with said private wireless network;
7 confirming, by said private base station controller, a location of the mobile station by
8 dummy paging when the mobile station keeps up an idle state during a certain period; and
9 updating the location information stored in said visitor location register using the
10 confirmed location information of the mobile station.

1 7. The method according to claim 6, the location information includes at least one of a
2 private base transceiver station number, a sector number and a repeater number.

1 8. In a private wireless network including at least one repeater dispersedly installed in
2 sector zones of a private base transceiver station and a visitor location register in which location
3 information of a mobile station is stored, a method for tracking a location of a mobile station
4 comprising:

5 storing, by a private base station controller of said private wireless network, location
6 information of a mobile station in said visitor location register when the mobile station registers
7 its location with said private wireless network, the location information including at least one of
8 a private base transceiver station number, a sector number and a repeater number with respect to
9 the relevant mobile station;

10 confirming, by said private base station controller, a location of the mobile station by
11 dummy paging when the mobile station keeps up an idle state during a certain period; and

12 updating the location information stored in said visitor location register using the
13 confirmed location information of the mobile station.

1 9. In a private wireless network including a visitor location register and a server
2 representing location information of a mobile station, a method for tracking a location of a mobile
3 station comprising:

4 storing, by a private base station controller of said private wireless network, location
5 information relating to a private wireless network location of a mobile station in said visitor
6 location register when the mobile station registers its location with said private wireless network;

7 confirming, by said private base station controller, a location of the mobile station by
8 dummy paging when the mobile station keeps up an idle state during a certain period;
9 updating the location information stored in said visitor location register using the
10 confirmed location information of the mobile station; and
11 transmitting, by said private base station controller, the location information of the mobile
12 station to said server when the location information of the mobile station is stored in said visitor
13 location register.

1 10. A method for tracking a location of a subscriber, comprising:
2 storing location information when a mobile station executes location registration, the
3 location information including a private base transceiver station number, a sector number and a
4 repeater number with respect to the relevant mobile station;
5 periodically transmitting a message requesting an inquiry about a mobile station
6 subscriber's state to a server;
7 requesting a private base station controller to inquire out location information stored in a
8 visitor location register in response to the inquiry message;
9 transmitting location information stored in a visitor location register to a server in response
10 to the server's request;
11 transmitting the location information received from said private base station controller to
12 the client; and
13 receiving the location information from said server and providing a user with a location

14 and state of a mobile station according to the received location information.

1 11. The method according to claim 10, further comprising of confirming a location and
2 state of a mobile station by dummy paging and updating its location information of said visitor
3 location register when the relevant mobile station keeps up an idle state during a certain period,
4 and then transmitting the updated location information to said server.

1 12. A method for tracking a location of a subscriber, comprising:

2 storing location information when a mobile station executes location registration, the
3 location information including a private base transceiver station number, a sector number and a
4 repeater number with respect to the relevant mobile station;

5 appointing a specific mobile station and requesting a client to inquire about the specific
6 mobile station subscriber's state, and the client transmitting a message inquiring about the specific
7 mobile station subscriber's state to a server in response to the user's request;

8 requesting a private base station controller to confirm a location and state of the specific
9 mobile station in response to the client's message; and

10 confirming the location and the state of the specific mobile station by dummy paging,
11 updating location information stored in a visitor location register and transmitting the updated
12 location information to said server in response to said server's request.

13. The method according to claim 12, further comprising of:

2 transmitting the location information received from said private base station controller to .
- 3 the client; and
- 4 receiving the location information from said server and providing a user with a location
5 and state of the specific mobile station according to the received location information.